

Claims:

1. A communication system comprising:
a communication path capable of conveying communication signals,
5 a communication device adapted to receive or generate VHF or UHF communication signals, and
a near field antenna associated with the communication device, the near field antenna being provided sufficiently near to the communication path to couple VHF or UHF communication signals to or from the communication device to the communication path.
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2. A communication system as claimed in claim 1 wherein the near field antenna is adapted to limit electromagnetic radiation therefrom.
3. A communication system as claimed in claim 1 or claim 2 wherein the
15 communication path is provided in the very near field of the near field antenna.
4. A communication system as claimed in any one of the preceding claims wherein the near field antenna is inductively coupled to the communication path.
5. A communication system as claimed in any one of claims 1 to 3 wherein the near
20 field antenna is capacitively coupled to the communication path.
6. A communication system as claimed in claim 4 wherein the near field antenna comprises a partial, single or multiple turn of a conductive material.
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7. A communication system as claimed in claim 6 wherein the conductive material comprises a thin metal track provided on a non-conductive planar substrate.
8. A communication system as claimed in claim 7 wherein the conductive material
30 comprises one or more turns being approximately 5mm to 15mm in a lateral dimension and approximately 20mm to 60mm in a longitudinal dimension.
9. A communication system as claimed in any one of the preceding claims wherein the near field antenna includes a shielding means to limit electromagnetic radiation.
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10. A communication system as claimed in claim 9 wherein the shielding means

comprises a screen, and the screen is provided on one side of the coupling means and the communication path is provided on an opposite side of the coupling means.

5 11. A communication system as claimed in claim 9 or claim 10 wherein the shielding means comprises a screen of a material having a low magnetic permeability, and the screen is provided on a side of the planar substrate opposite to a side of the substrate on which the metal track is provided.

10 12. A communication system as claimed in any one of the preceding claims wherein the communication path is a transmission line comprising a cable having two parallel conductors.

13. A communication system as claimed in claim 12 wherein the conductors are separated by an insulating web.

15 14. A communication system as claimed in claim 12 or claim 13 wherein the cable comprises a ribbon cable.

20 15. A communication system as claimed in any one of the preceding claims wherein the communication path is terminated with a resistance corresponding to the characteristic impedance of the path.

25 16. A communication system as claimed in any one of the preceding claims wherein the system includes a communication device directly coupled to the communication path.

17. A communication system as claimed in any one of the preceding claims wherein essentially no power is radiated from the communication path.

30 18. A communication system as claimed in any one of the preceding claims wherein the system allows bi-directional communication between the communication device the communication path.

35 19. A communication system as claimed in any one of the preceding claims wherein the communication device is moveable along the power supply path and the near field antenna moves with the communication device and relative to the communication path to allow the communication device to receive or generate VHF or UHF communication

signals to or from the communication path.

20. An HID/IPT system including:

5 a power supply path adapted to be energised by a power supply to provide an
electromagnetic field associated with the power supply path;
one or more moveable pick-up devices associated with the power supply path and
adapted to receive electrical energy from the electromagnetic field to supply a load;
a communication path capable of conveying communication signals,
a communication device provided on each of the one or more pick-ups, the
10 communication device being adapted to receive or generate VHF or UHF communication
signals; and
a coupling means associated with the communication device, the coupling means being
provided sufficiently near to the communication path to couple VHF or UHF
communication signals to or from the communication device to the communication path
15 whereby the one or more pick-ups may communicate with each other or with a further
device.

21. An IPT/HID system as claimed in claim 20 wherein the further device interfaces
with a control system.

22. An IPT/HID system as claimed in claim 20 or claim 21 wherein the further device is
directly connected to the communication path.

23. An IPT/HID system as claimed in any one of claims 20 to 22 wherein the coupling
25 means comprises a near field antenna.

24. An IPT/HID system as claimed in any one of claims 20 to 23 wherein essentially
no power is radiated from the communication path.

30 25. A communication method including the steps of:
providing a communication path capable of conveying communication signals;
providing a communication device, the communication device including a near field
antenna provided near to the communication path, and either;
a) imposing a VHF or UHF communication signal on the communication path and
35 using the near field antenna to provide the signal to the communication device,
or

- b) using the communication device to generate a VHF or UHF communication signal and using the near field antenna to provide the signal to the communication path.

5 26. A communication system substantially according to any one of the embodiments herein described with reference to Figures 2 to 15 of the accompanying drawings.

27. An HID/IPT system substantially according to any one of the embodiments herein described with reference to Figures 2 to 15 of the accompanying drawings.

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28. A communication method as claimed in claim 26 and substantially as herein described.